

In replying please address:

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March 16, 1959

Dear Sir:

On November 1, 1958, research under Supplement No. 1 to
Task Order No. Z was imitiated that was directed toward the development and evaluation of a compact, full-scale experimental cyclonejet incinerator which would embody an air-film-cooled metal liner;
and of a simple experimental feeding mechanism for the easy introduction of papers intermittently into the experimental refractorylined incinerator evolved previously (and if possible, into the abovementioned experimental unit with an air-film-cooled liner) while
burning was in progress, without any disturbance of the desirable
characteristics of the combustion process.

During the course of the research performed thus far, an experimental air-film-cooled incinerator has been designed and prepared, and burning experiments have been conducted in order to investigate its performance characteristics. In general, this unit has operated satisfactorily, particularly in regard to burning paper without smoke and excess flame at average burning rates up to about

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250 pounds per hour. However, it is currently contemplated that it would be necessary to perform additional research in order to investigate a revision of the arrangement for distributing air within the burning chamber that was directed toward providing for the attainment of the desired maximum combustion rate of about 500 pounds per hour.

Such additional research, as envisioned at this time, would entail studying the effects of increasing the proportion of total air supplied, as primary air, that would impinge on the burning charge with sufficient force so as to promote further burning within the charge as well as on the surface. In connection with this study, the number and size of primary air jets located in the burning zone of the experimental air-film-cooled-liner unit would be increased; burning experiments would be conducted; and additional adjustments, if necessary, would be made, within the limits of the time and funds provided. As this type of air redistribution was effected, correspondingly the flow of film-cooling air would be reduced in those areas of the metal liner which have been found to operate at unnecessarily low temperatures. It is anticipated that, in the course of the additional effort, no major difficulties would be encountered in achieving an appropriate air redistribution within the burning chamber.

In the performance of the research directed toward the design, development, and evaluation of an experimental feeding mechanism, a design has been conceived, an experimental unit has been prepared, and an evaluation experiment has been conducted with this unit installed in the refractory-lined incinerator. On the basis of the

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results obtained, this version of the proposed mechanism has been discussed with your technical representatives. Subsequently, the experimental unit has been modified and its performance evaluated; as anticipated, further changes are needed and these are being made currently. In the course of the above-described effort, unexpected time delays have occurred in the preparation and modification of the experimental feeding mechansim.

Accordingly, it is hereby proposed that Task Order No. 2 be amended to provide for an additional two-month period of research (the ending date for the research period should be extended through June 30, 1959), with an increase in the estimated appropriation of \$3,200, including an increase in the fixed fee of \$180. A general breakdown of the estimated appropriation increase is attached.

Of course, the proposed amendment would be consistent with our current contractual arrangements. Further, liaison with your technical representatives would be maintained, and, at the conclusion of the proposed research period, a summary report would be submitted, as outlined in our proposal dated September 26, 1958.

we shall appreciate your cooperation in arranging for this amendment as quickly as possible, so as to minimize any lapse in

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Vice President

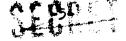
the effort under this Task Order. If you should need any additional information, please do not hesitate to call us. Inquiries of a contractual nature may be directed to Very truly yours.

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In Duplicate

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the U. S. Government.

For Remarker additional research on "The Development of a Specialized Paper-Burning Incinerator".

Based upon a period-basis Contract for a research period of two months.

(Including time for submission of all reports. The proposed contract will not provide for earlier conclusion of the tesearch.)

ESTIMATED COSTS

We expect that the cost of this research for the period indicated above may be distributed approximately as set forth hereon, subject to the understanding that this allocation is merely an estimate, and actual costs incurred may vary from the categories shown. We have determined that these estimates are reasonable and consistent with established policies in its research for the various Government agencies, which policies are briefly discussed below and will be followed in determination of our actual costs hereunder.

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Materials & Supplies, etc.

100

(Including any equipment which may be purchased as necessary in performance of the research. Charges of \$25 or less are excluded from this item.)

Use of Equipment and Technical Services, Travel, and Misc.

400

(Including applicable costs of technical research and service divisions, and use of technical equipment, except that any undistributed balances of these accounts will be included in overhead. Cost of travel includes reasonable actual subsistence expenses and the actual cost of transportation. An allowance of up to 8¢ per mile for all necessary travel by privately owned conveyance is included in lieu of the cost of such travel.)

Salaries & Wages

(Including our predetermined accrual for vacation, holiday, and sick-leave pay, pensions, and social security.)

| Type of Employee | No. of Man-Months | Estimated Cost |
|---------------------|-------------------|----------------|
| Supervision | 1/4 | ¥255 |
| Research Engineers | 1 | 710 |
| Lab. Assistants | 1-1/2 | 610 |
| Steno., Clerical, | | |
| Shop & Photo., etc. | Nominal | Nominal |
| m1 C-1i Wanna | | |

Total Salaries & Wages

\$1.575

Overhead

60 per cent of salaries and wages, as they are defined above. Provisional monthly reimbursement will be at the rate of 60er cent of salaries and wages, as so defined, or at such other provisional rate as may from time to time be mutually agreed upon with the Government's audit representatives. This is a provisional rate for current reimbursement, which we have arrived at by negotiation with Government representatives, and it will be subject to retroactive revision to the "actual" rate agreed upon with them for each calendar year following a detailed audit for that year. The item of overhead includes general research, charges of \$25 or less for materials and supplies, and other categories of costs we customarily include in our overhead account. Cash discounts on all purchases will be credited to overhead, instead of to the amount of the purchase. Scrap of appreciable value will be credited directly to the project. All other scrap will be credited to the overhead account, in which the Government participates.)

Total Estimated Cost

\$3,020 s 180

Fixed Fee

*Please let us have your acceptance in our hands by April 24, 1959 street Price

\$3,200

Unless we extend the time, your acceptance after that date will be subject to agreement.

